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AMSAT NEWS SERVICE
ANS-006

ANS is a free, weekly, news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org

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ANS-006 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 006.01
>From AMSAT HQ SILVER SPRING, MD.
January 6, 2013
To All RADIO AMATEURS
BID: $ANS-006.01

Reminder -- AMSAT Receives $25,000 Matching Funds Challenge

Now is the time to take advantage of this opportunity to double your donation.

There are several ways you can double your donation to keep Amateur Radio in Space:

+ Members have received a form in the mail to fill out and return. Please do so today!

+ Go the AMSAT Store and make a donation

+ Donate via a PayPal donation sent to martha at amsat.org or click on our PayPal widget at http://www.amsat.org.

Your generous contribution to AMSAT to support AMSAT and Project Fox now will help ensure that our common dream of keeping amateur radio in space will, indeed, become a reality.

Fox-1A's design goals include:

+ Fox-1 includes a U/V (mode B) FM analog transponder. It's 2 meter downlink should be even easier to hear than AO-51.

+ Fox-1 is being designed so you can work it with just a dual-band HT and an "arrow" antenna.

+ The telemetry data from Fox-1 will be sent on the voice downlink in the frequencies below the audible band as low-speed FSK with forward error correction.

+ Fox-1 will provide an on-orbit test of a new high speed digital data mode for use on future missions.

+ A free telemetry decode program, FoxTLM, will be available to decode and display the low-speed telemetry and the high speed data downlink.

+ Fox-1 is designed to host a significant science payload to support future science missions that help us to get a free launch. This capability is fully utilized in our second ELaNa proposal to fly Fox-1B.

+ Fox-1 is designed to keep the FM transponder active using it solar cells in the event of on-orbit battery charging problems.

[ANS thanks the AMSAT Office for the above information]

SKN on OSCAR 2013 Best Fist Nominations Due

Many thanks to all who participated in AMSAT's Straight Key Night on OSCAR 2013. If you have not already done so, please take a moment to nominate someone you worked for Best Fist. Remember, your nominee need not have the best fist of those you heard, only of those you worked. Send your nomination to w2rs at amsat.org.

This year's event is dedicated to the memory of John Thompson, W1BIH/PJ9JT, who passed away in 2012, aged 96. Although known primarily as an HF DXer and contester, John was also active on OSCAR, mostly on CW.

Those nominated will be recognized in an ANS bulletin in early February, and in The AMSAT Journal.

[ANS thanks Ray Soifer, W2RS for the above information]

Proposal Window for U.S. ARISS Contacts Open until January 28

NASA's Teaching from Space program says their application window for schools and suitable public venues in the United States is open until January 28, 2013.

To be considered for an ARISS contact with crew members aboard the International Space Station the application process consists of sub-

mission of an educational proposal describing incorporation of science, technology, engineering and math (STEM) subjects into the curriculum.

The ARISS program is a cooperative venture of NASA, ARRL and AMSAT and other international space agencies that organizes scheduled contacts via Amateur Radio between astronauts and cosmonauts aboard the ISS and classrooms and communities.

One of the ARISS partners, the American Radio Relay League (ARRL), posted information of the proposal process on their web at:
http://www.arrl.org/ariss-proposal-requirements

The NASA Teaching From Space web site has all of the instructions and links to downloadable forms posted at:
http://tinyurl.com/NASA-TFS-JanuaryWindow (nasa.gov)

Proposals accepted during January are for ARISS contacts that would take place in the U.S. between June 2013 and November 2013.

A variety of public forums considered for ARISS contacts include:

+ School assemblies
+ Science museums
+ Scout camporees and jamborees and space camps
+ Large group audiences where students, teachers, parents, and communities learn about space and space technologies and Amateur Radio.

[ANS thanks NASA Teaching From Space, ARRL, and ARISS for the above information]

AMSAT Awards

AMSAT Director Contests and Awards, Bruce Paige, KK5DO says congratulations are in order for our latest AMSAT Awards recipients:

The following have entered into the Satellite Communicators Club for making their first satellite QSO.

+ Joseph Fouquet, N5JF
+ Mark Gearis, KG4JAG

The following have earned the AMSAT Communications Achievement Award.

+ Costantino Montella, IK8YSS, #551
+ Joseph Fouquet, N5JF, #552
+ Anthony Sirianni, KD8OEE, #553

The following have earned the South Africa Satellite Communications Achievement Award.

+ Costantino Montella, IK8YSS, #US180
+ Arnel Nebrida, DU2XXA, #US181
+ Anthony Sirianni, KD8OEE, #US182
+ Mark Gearis, KG4JAG, #US183

To see all the awards visit http://www.amsat.org. Bruce says this will finish up the AMSAT Awards for 2012. Get on the air and earn your AMSAT Award during 2013!

[ANS thanks AMSAT Director Contests and Awards, Bruce Paige, KK5DO
 for the above information]

PhoneSat CubeSat Now Rescheduled for February Launch from Wallops

The PhoneSat cubesat, originally planned for a December 2012 launch, now looks like it will fly aboard a new commercial rocket from Orbital Sciences Corp. Orbital's initial flight of the Antares-110 vehicle will carry PhoneSat into low earth orbit. The vehicle will be launched from a new launch pad LA-0A at Wallops Island, where the former Conestoga launch pad was located.

Phonesat carries an amateur radio payload on 437.425 MHz, has been chosen as one of the winners in the Aerospace category for the Popular Science magazine "Best of What's New 2012" awards.

PhoneSat is a technology demonstration mission consisting of three 1U CubeSats intended to prove that a smartphone can be used to perform many of the functions required of a spacecraft bus.

The satellite is built around the Nexus smartphone which will be running the Android operating system and will be enclosed in a standard 1U cubesat structure. The main function of the phone is to act as the Onboard Computer, but the mission will also utilize the phone's SD card for data storage, 5MP camera for Earth Observation, and 3-axis accelerometer and 3-axis magnetometer for attitude determination.

One of the nanosatellites, powered by the HTC Nexus One smartphone, will send back pictures of Earth. The other two, running on the Samsung Nexus S, will have two-way S-band radio allowing them to be controlled from Earth.

With a short lifetime of only about one week, the satellites have no solar cells and operate on battery only.

Also planned for this launch is the commercial DOVE-1 satellite for a technology demonstration nanosatellite based on the triple CubeSat form factor. It's mission consists of:

+ Build a low-cost imaging satellite with non-space, COTS components.
+ Show that a bus constrained to the 3U cubesat form factor can viably host a small camera payload.
+ Demonstrate the ability to design, produce and operate satellites on short schedules and low cost.

Dove-1 plans to transmit its telemetry and image data to the ground on a proposed frequency of 145.825 MHz in the amateur radio band although this is a commercial mission.

[ANS thanks NASA, Gunter's Space Page, and AMSAT-UK for the above
 information]

TAPR DCC Videos Available Online

Gary Pearce, KN4AQ, says HamRadioNow (http://arvideonews.com/hrn/)

recorded all of the 2012 Atlanta ARRL & TAPR Digital Communications Conference. The videos are posted in this link above.

The HamRadioNow netcasts appear in newest to oldest order on the web page. Scroll down to find these episodes from the 2012 DCC:

+ Episode 33 is a talk with TAPR President Steve Bible, N7HPR, about what TAPR is today (and what it's been), the DCC.

+ Episode 34 is Steve again with his lead-off talk on the ARISSat project's user survey.

+ Episode 35 has Scotty Cowling, WA2DFI, and Jeremy McDermond, NH6Z, reviewing this year's hardware and software updates to HPSDR - High Performance Software Defined Radio.

+ Episode 36 is more than a primer on SDR and FlexRadio's new 6000 series by FlexRadio's Stephen Hicks, N5AC.

+ Episode 37 has NW Digital Radio's Bryan Hoyer, K7UDR, and John Hays, K7VE, updating a pair of old ideas: a packet-hailing channel and AMPRNet44.

+ Episode 38 features Hessu Hannikainen OH7LZB, developer of the APRS.FI website describing development of an open-source server for the APRS-IS network that distributes APRS data worldwide.

Episode 44, added on December 27 is a video from the DCC presenting the design of a Handheld SDR by Chris Testa, KD2MBH.

TAPR says the DCC videos will also be viewable on the YouTube TAPR Digital Videos Channel:
http://www.youtube.com/user/TAPRDigitalVideo

[ANS thanks Gary Pearce, KN4AQ and TAPR for the above information]

STRaND-1 CubeSat Filmed by BBC Stargazing Live

AMSAT-UK reports on http://www.uk.amsat.org/?p=12039 about the BBC filming at the Surrey Space Centre (SSC) and Surrey Satellite Technology Limited (SSTL) for an item on the STRaND-1 CubeSat mission for the "Stargazing Live" program to be broadcast January 8-10.

Volunteers from the SSC and SSTL built STRaND-1 in their spare time.

The STRaND-1 spacecraft will carry an Amateur Radio AX.25 packet radio payload on 437.575 MHz. It will be the UK's first "PhoneSat" carrying a Nexus Android Smartphone that will run a number of Space Apps. In addition it will have both a Resistojet and a Pulsed Plasma Thruster (PPT) module.

The 'STRaND Data' App, one of the Space Apps that will run on the Smartphone was a spin-off of the work done by the AMSAT-UK FUNcube team. This App will collect satellite telemetry from within the satellite and display it graphically on the Nexus One Display. The display is observed by an on-board camera and the images transmitted to earth on Amateur Radio frequencies.

Pictures taken during the BBC filming can be seen at
https://www.facebook.com/pages/Surrey-Space-Centre/147861435274871

STRaND-1 on Facebook https://www.facebook.com/nanosats

[ANS thanks AMSAT-UK for the above information]

Help Wanted: AMSAT News Service Rotating Editor Positions Available

The AMSAT News Service (ANS) is responsible for researching, writing, editing, and publishing the weekly amateur satellite news bulletins.

With the addition of a couple of volunteers this would generally involve taking a turn about every 3 to 4 weeks.

At present we a looking for interested satellite enthusiasts to join the ANS editorial team. Professional writing/editing experience is NOT a requirement. Your interest and enthusiasm in following and reporting on amateur radio in space will get you started! The ANS Editor team helps each other by rounding up items of interest. Plus we receive submitted items for publication ... so you won't be left all alone!

If you can commit to working on the bulletins for a week on a rotating basis please reply via e-mail to AMSAT News Service Editor Lee McLamb, KU4OS via ku4os at amsat.org.

[ANS thanks AMSAT Vice-President User Services, Gould Smith, WA4SXM for the above information]

First 24 GHz Contact Between USA and Japan

Al, W5LUA and Shichirou, JA6CZD made the first 24 GHz EME contact between the USA and Japan on January 2 at 1430Z. The two stations had about an hour of common window where each had 15 to 20 degrees of elevation.

JA6CZD uses a 2.4 M offset fed dish with a 22 watt SSPA. W5LUA uses a 2.4M offset fed dish and a TWT mounted on the feed support providing 100 watts at the feed. JA6CZD sent Al a 559 signal report and Al gave Shichirou a 449 report.

Both stations use linear polarity and must compensate for the 70 degrees of spatial offset between their locations. JA6CZD was used horizontal and Al used vertical polarization. The noise figure at both stations was under 2 dB.

Al measured his Doppler Shift with his return echoes at 51 KHz at the start of the contact. The mutual Doppler Shift placed both at about 24048.108 MHz based on a center frequency of 24048.100 MHz. This shifted down in frequency as the schedule took place.

W5LUA was GPS locked and JA6CZD uses an OCXO and a Rubidium standard to control frequency.

[ANS thanks Al Ward, W5LUA for the above information]

Kline School Posts AMSAT Announcement

The Kline School "Out of This World Experience" Raises $6500 for AMSAT Fox story, originally announced in the ANS-351 bulletins, now has some photos to accompany this event.
(See: http://amsat.org/pipermail/ans/2012/000675.html)

In conjunction with Kline School's ARISS contact on December 6 the students launched a Spell-A-Thon and raised $6,500 dollars for solar panels on Fox-1.

Kline School posted coverage of AMSAT's write-up at:
https://sites.google.com/a/klineschool.com/return-to-space/highlights
https://www.facebook.com/pages/Kline-School/153838291839
(plus you get a preview of page 5 of the January/February 2013 AMSAT Journal under production.)

[ANS thanks Kline School and The AMSAT Journal for the above information]

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information. And with that, please keep in mind when Christmas was over Rudolph had a chance to do something he had wanted to do for a long time. He made an appointment with a plastic surgeon because he was so sensitive about his looks. However, it wasn't his glowing proboscis that he wanted changed. He was proud of his nose and the help he had given Santa because of it. No, he was sensitive about his long ears which were much more prominent than the ears of the average reindeer. So one week after Christmas, he underwent reconstructive surgery, and since that time, January 1st has been celebrated as ... New Ears Day.

73,
This week's ANS Editor,
JoAnne Maenpaa, K9JKM